

ABSTRACT OF THE DISCLOSURE

The present invention provides for an Ethernet switch node providing power over
5 Ethernet functionality for use in a power pooling system comprising at least one pooling
controller, the Ethernet switch node providing power over Ethernet functionality
comprising: a DC power source; an electrical load connected to the DC power source;
a power sharing circuit responsive to an output of the at least one pooling
controller, the power sharing circuit being operative to govern electrical power provided
10 by the DC power source; and a DC electrical power connection to the DC power source
and the electrical load, permitting external DC electrical power flow to and from the DC
electrical power consuming and providing entity, wherein the Ethernet switch node
providing power over Ethernet functionality has multiple modes, including a first
operative mode in which the DC power source may provide more electrical power than is
15 consumed by the electrical load.